

IV. *Observations on the Mouth of the Eels in Vinegar, and also a strange aquatic Animal, sent in a Letter from the Rev<sup>d</sup> Mr. Henry Miles to Mr. Baker, F. R. S. and by him communicated to the ROYAL SOCIETY : With a Drawing and Description of the said Animal, as viewed in the Microscope, by Mr. Baker.*

SIR,

\* \* \* \*

Read March 10.  
and 17. 1742-3.

I Have now to tell you an Observation I made on one of the *Anguillæ* in *Vinegar* (of which, by the way, I have a prodigious Increase, though I lost all by Accident about a Month since, to about a single Drop or two). The Observation was made with the *Camera Obscura* Microscope : First, in a very small Tube, not a Capillary one, though approaching near it, I put a small Quantity of *Vinegar* with several *Anguillæ* : At my first Sight of the Image on the Screen, I observed one to have a Motion as if it had been wounded, about the Middle of the Back, if I may so express it ; it neither rose nor sunk in the Liquor, but lay in this Form  wriggling itself : I thought it gave Signs of Pain, and would soon expire, which it accordingly did in a Minute's time ; but it coiled itself up, and stuck to the Side of the Tube very close, before I was aware : I put out the Liquor, after waiting to see whether it would revive, in vain, and viewed it

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several times in the common Light, which way I had the most distinct Appearance ; and must acknowledge the Exactness with which it had coiled itself, gave me no small Pleasure to behold : It would be impossible for me to give you a Description of it, having no Skill in Drawing ; but what I chiefly intended to tell you I will endeavour to describe as well as I can : The biggest End, which I call the Head, was stretched out from the rest of the Body, a little Way, as in the Figure, which gave me an Opportunity I had wished for, of examining what Mouth it had. On my first View of it in common Light, I saw what I incline to think may be called the Mouth : Repeated Trials in different Lights and Positions, and with different Magnifiers, confirmed my Suspicion ; for I saw no other Appearance of it, than what I ought to expect on such Alterations of the Glasses, &c. I would only add, that after the strictest and most exact Observation I could make, I could discern it to be nothing more than a transparent Tube. Where the Instruments of Nutrition, and the Springs of Life, are, I doubt we shall not soon discover. I once indeed thought, viewing it in the *Camera*, &c. I saw a Blood-vessel, but I believe it was no more than refracted Light, or prismatic Colour.



a. *The Mouth, which seemed to be as wide open as it possibly could be.*

I am sensible my Figure is too small to give you a just Idea of the Shape of the Mouth, but it had the  
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Appearance which a Tube, or rather a Cone, would make cut slopewise.

I have further troubled you with an odd aquatic Animal, some Specimens of which you will find inclosed, found in standing Water: I kept some of them in their own Element in the House, but they all died in a Day and half's time. They seem to be nothing but Skin, and seem no thicker when alive: They have the Power (as most aquatic Insects have) of sinking themselves to the Bottom on the Approach of a Stick, &c. and fall like a Piece of rotten Wood, or Leaf—When taken out of the Water, if laid on a Paper, &c. they will spring away like a *Grashopper*. I do not at present remember ever to have seen them before, and know not what to make of them, unless they are the *Tipula*, or *Water-Spider*, not yet arrived at its mature State. I am,

Tooting, March  
9. 1742-3.

*Your most obliged  
and very humble Servant,*

H. Miles.

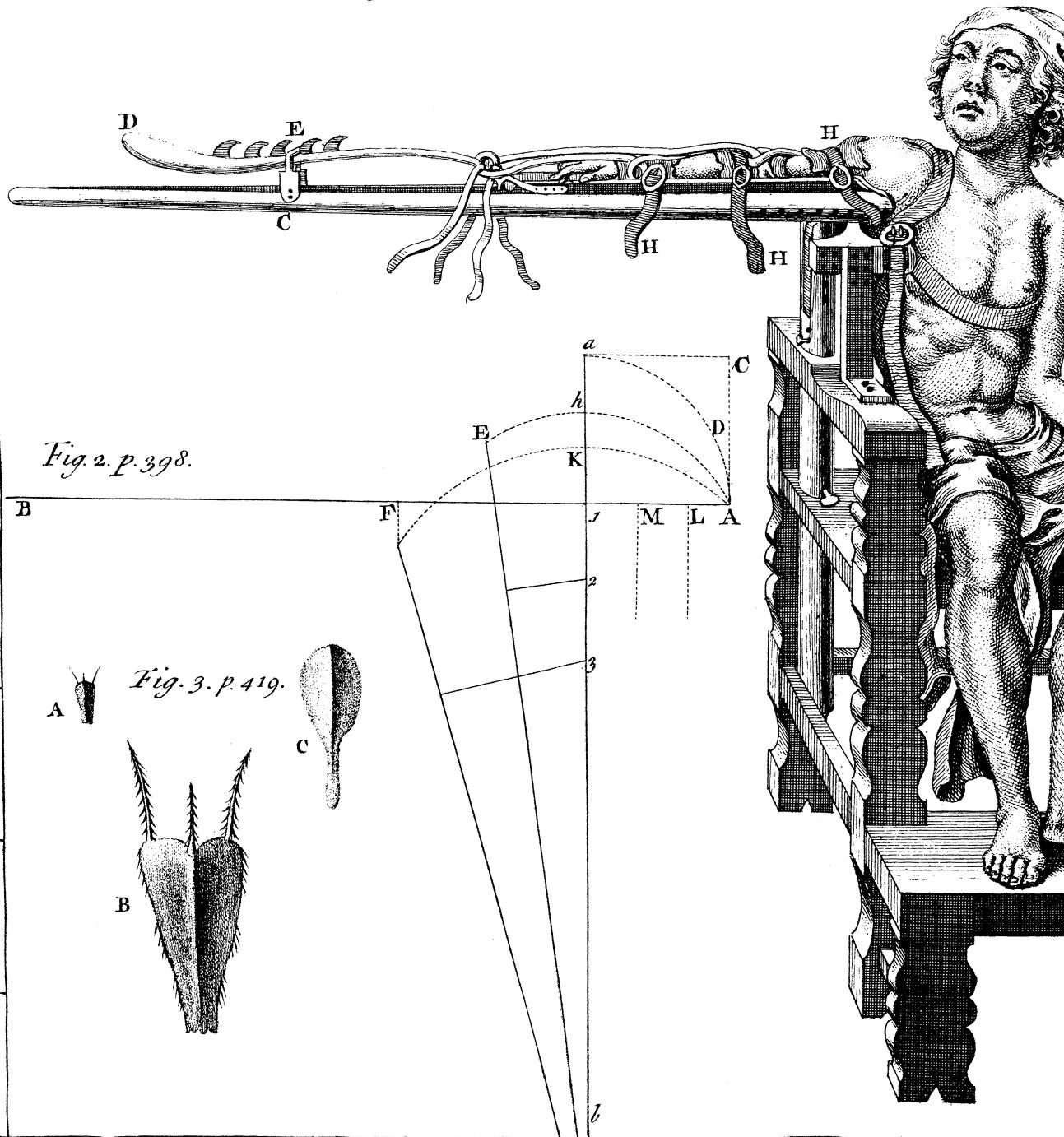
**P. S.** The Animals I send you were catched Yesterday, and kept in Water in a Glass; and when I had finished my Letter, I went to pack them up in Paper, but found none of them left, as I thought, at first; but on a nearer View I found they were all collected together in a Knot, which I took for some Filth in the Water, till I more carefully viewed them, and found them hanging together by the Tails.

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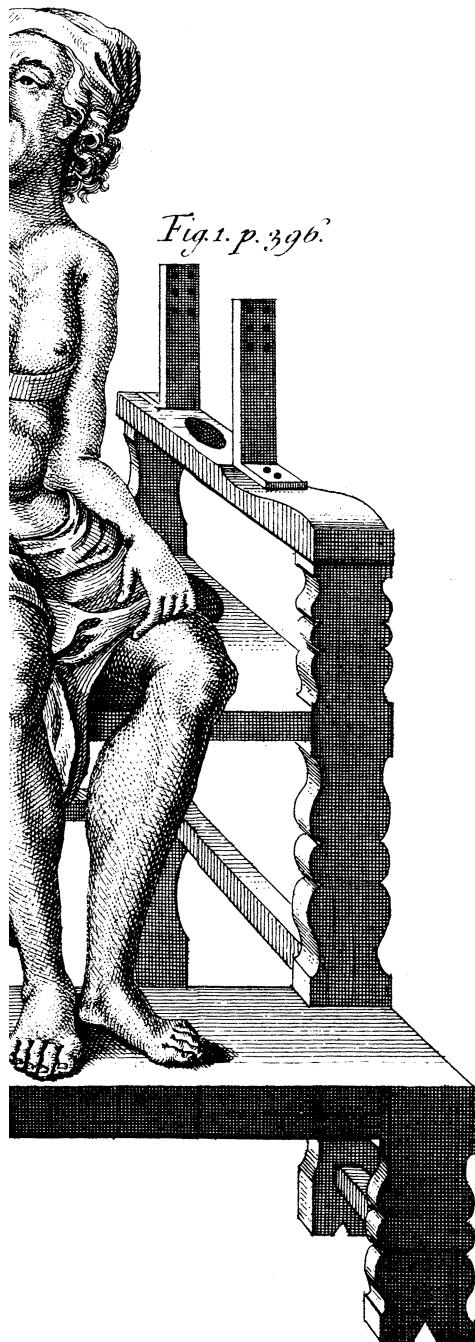
Explanation of the FIGURE by Mr. Baker, see  
TAB. IV. Fig. 3.

- A. Represents an undescribed Kind of aquatic Animal, (lately observed by the Revd Mr. Miles of Tooting) in the same Size and Form as it appears to the naked Eye. Several of them were found in the Water of a Ditch; whence being taken, and laid on a Paper, they had a leaping Motion.
- B. The same Animal, as examined by the Microscope, which shews it to be a triangular, oblong, opaque Body, somewhat like the Shape of a Prism, but tapering from End to End. The Three Horns (whereof those on the Sides are a Third Part longer than the Middle one) appear armed with extremely sharp Thorns or Prickles: The same Sort of Prickles are placed likewise along the Sides of the whole Body, pointing downwards, from Head to Tail.
- C. Shews the Form of a Body inclosed in the former, and taken out upon Dissection. This seems to be an Animal in its Aurelia State; and if so, what has been before described is only its Husk or Case, which will be quitted when it comes to change.

Quere, What Animal is this in its perfect State?



*Fig. 1. p. 396.*



*J. Mynde, sc.*

